Published on *Center for X-Ray Optics* (http://www-cxro.lbl.gov)

Departments

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CXRO consists of several departments working in tandem to achieve our goals. In addition, many of these departments can provide services to other groups at LBNL, and with proper agreements to outside users as well.

Mechanical Engineering & Systems Design

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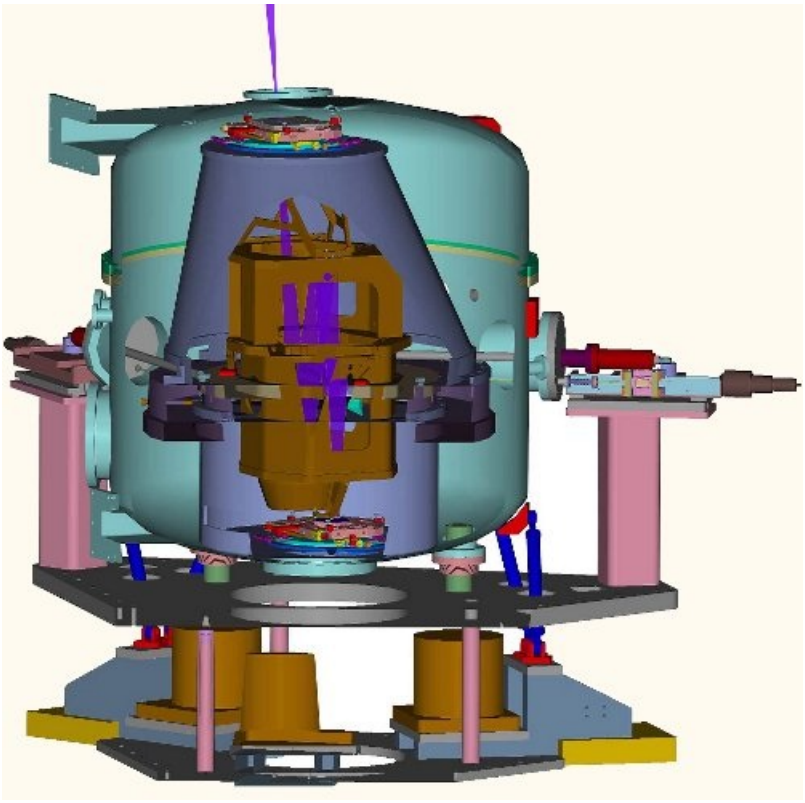


The CXRO engineering staff provides a uniquely diverse group of skill sets to the CXRO scientific community in a combined effort to make a scientific theory a proven reality. The technical team specializes in state-of-the-art micro-mechanical systems, electro-mechanical devices, computerized electronic motion control systems, and ultra high vacuum (UHV) system controls and equipment.
Working closely with the scientific staff, the engineering team designed, built and continues to provide technical support to five beamlines located at the Advance Light Source.
X-ray Microscopy, EUVL Defect Inspection, EUVL Interferometry and two beamlines for X-ray Calibrations and Standards. These beamlines are designed to operate at peak performance twenty-four hours a day seven days a week.
Capabilities include but are not limited to: Design, fabrication and fine tuning of beamlines and vacuum equipment, Cryogenics, Multi-layer coated EUV optics, Development, design & fabrication of electronic circuitry, In-vacuum cameras and controls, Kirk/Patrick-Baez optical systems, Custom UHV vacuum chambers, Survey and alignment, Computer aided design (CAD), and a fully equipped precision machine shop.

Instrumentation and Fabrication

The CXRO mechanical technician team provides a uniquely diverse group of skill sets to the CXRO scientific community in a combined effort to make a scientific theory a physical reality.
The technical team specializes in very sophisticated ultra-high vacuum (UHV) systems. The UHV systems include component design, fabrication, precision electro-mechanical assemblies, computerized electronic motion control systems, UHV vacuum chambers and vacuum equipment, installation and commissioning of state-of-the-art micro-mechanical systems such as monochromators and photo emission spectrometers.
The engineering technical team has built and commissioned five UHV beam lines located at the Advance Light Source: X-ray Microscopy, EUVL Defect Inspection, EUVL Interferometry and Optical testing, and two X-ray Calibrations and Standards beam lines. These state-of-the-art beam lines are designed to operate at peak performance twenty-four hours a day seven days a week while accommodating researchers and their experimental end stations.
Capabilities of the technical team include but are not limited to the fabrication of specialized beamline components including: Design & Fabrication, Optimization of vacuum equipment, Cryogenics, Custom electronic circuitry and instrumentation, Creation of in-vacuum cameras and controls, optical mirror coatings, vital mirror bending systems, Custom UHV vacuum chambers, Specialized survey and alignment applications, Computer aided design (CAD), Welding, and a fully equipped precision machining facility.

Electronic Instrumentation

CXRO has the ability to provide custom made electronic instruments for a wide range of applications. These include custom-made in-vacuum capacitive displacement sensors, precision current meters, and beam exit slits and attenuators. Custom printed circuits and motion control devices are also available to scientific staff.

Computing Services

CXRO's Computing Services provide a variety of high-quality services to users both in and out of CXRO, including:

- IT support:
  - Build and maintain computer hardware
  - Remote, automated Backup
  - Installation and upgrade of software packages
  - Web page hosting
  - Database hosting
- Software Development:
  - Control systems for endstations and standalone experiments
  - Equipment Protection Systems (EPS)
  - CORBA servers for remote monitoring and control
  - Programming in C/C++, LabVIEW, Java/Eclipse, PHP, IDL, and others
  - Web applications development

The unique collaborative environment fostered by CXRO shows in the interactions between Computing Services and other employees at the Lab. We are motivated to finding the best solution to any complex problems presented to us; this often requires flexibility and a variety of perspectives.

FAQ

Q: Where is Xshare?
A: Xshare is located on reba.lbl.gov, our primary file server. It can be accessed through the network neighborhood in the domain MSD. The server name is reba, and the share name is XSHARE. You can also obtain access via the web by logging into this site, then clicking on My Groups and selecting My Folder (xshare).

Q: How do I change my password?
A: First, log in using your existing username and (old) password. Then click on My Account and select the Change Password tab.

Q: Where can I scan and create PDF documents?
A: The 2-455 computer room has everything that you need to scan and create PDF documents. There are 2 scanners available, and a copy of Adobe Acrobat.

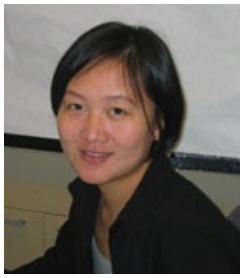
Q: My (Windows) computer is infected. What do I do now?
A: Check to see if you have anti-virus software. If you have Sophos, right-click on the system tray icon and select "Update Now". Then open Sophos and select "Scan My Computer". If you have Symantec instead, update the virus definitions by clicking "LiveUpdate." Then click "Scan Computer" in the left hand toolbar. Check all of the boxes that are local to your computer and click "SCAN." If this does not work, please contact Jeff Gamsby.

Q: I cannot access the Internet, but it was working yesterday. What do I do?
A: If this happens to you, most likely the lab has blocked your machine from network access. You should run Windows Update as soon as possible and let Jeff Gamsby know so they can restore your network access. In some cases opening a web browser will automatically take you to a page where you can restore access yourself.

Staff

Ron Tackaberry graduated from Southern Illinois University with a BS in Mathematics. He has been with the Center for X-Ray Optics for the last twenty years. He manages all of CXRO's systems and software. His primary interest is traveling.

Bob Gunion graduated from the University of Colorado, Boulder with a PhD in Physical Chemistry. He started working for the Center for X-Ray Optics in 1998. As a member of the Engineering Division, he designs and writes control & analysis software for several beamlines at the Advanced Light Source. His interests include: biking, sailing, running, and swimming.



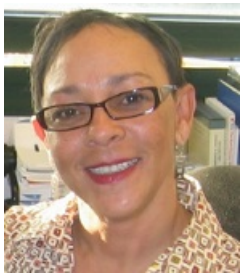
Hanjing Huang graduated from Cal State Hayward with a MS in Comptuer Sciences. She is an equipment protection systems specialist. As a member of the Engineering Division, she has worked at the Advanced Light Source and the Center For X-Ray Optics since 2001. Her interests include: watching movies, reading, and swimming.

Jeff Gamsby is the primary systems administrator at CXRO. He is responsible for maintaining all computer systems in the group. He has been working at the LBL since 1996. His interests include: sports, cooking, and spending time with his family.

Administration & Budget

Erik Anderson holds a PhD in Electrical Engineering from MIT. He is currently the deputy director of the Center for X-Ray Optics and head of the Naofabrication facility.

Su-Jane Lai's role is the primary Budget Analyst for MSD's CXRO. She manages all financial aspects of the Center, a $7.75M program with approximately 40 projects under 5 separately managed programs: Basic Energy Sciences (BES); Sematech EUV Patterning; Sematech EUV Defect; EUV Scattering; and Nanofabrication.



As the Administrative Assistant for the Center for X-Ray Optics at the Lawrence Berkeley National Laboratory, **Juanita Jones** works with a lot of incredibly busy scientists who, in turn, keep her busy. She meets scientists from all over the world. She loves her job and enjoys a fabulous view from the Berkeley hills. It’s a great place to work.

Monnikue McCall performs administrative duties for the CXRO group. She is from Vallejo, CA, and is studying Music Education at Berklee College of Music in Boston, MA. During her free time she enjoys cooking and eating.